DOCUMENT RESUME

ED 048 819 HE 002 010

AUTHOR Chase, Clinton I.; Hemmeter, John T.
TITLE A Characterization of Honors Students. Indiana Studies in Prediction Number 14.
INSTITUTION Indiana Univ., Bloomington. Bureau of Educational Studies and Testing.
PUB DATE Dec 70
NOTE 30p.

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *Able Students, Academic Achievement, *College Students, Family Background, *Higher Education, Student Attitudes, *Student Characteristics, *Superior Students
IDENTIFIERS *Indiana University

ABSTRACT

The purpose of this report was to explore the personality characteristics of the Honors student, as well as his interests, family background, and high school activity record. Data were collected from a sample of 236 participants in the Honors program at Indiana University. These students were administered the Opinion, Attitude and Interest Survey; in addition, each student completed a personal history questionnaire. Baseline data was available from the 1961 freshmen class that had completed the survey. Information is presented for both groups on (1) age; (2) residence; (3) high school class standing; (4) occupations of fathers; (5) father's educational level; (6) mother's educational and occupational level; (7) number of sex siblings; (8) educational aspirations; (9) expectations of difficulties in selected situations; and (10) academic abilities (only of honor students). The remainder of the report presents the results of the factor analysis. Fourteen factors were extracted from the data, and the variables and loadings defining each of these factors are presented in the tables. (AF)

ED048819

INDIANA STUDIES IN PREDICTION No. 14

A CHARACTERIZATION OF HONORS STUDENTS

by

Clinton I. Chase
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Monograph of the

Bureau of Educational Studies and Testing

INDIANA UNIVERSITY

December, 1970

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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INDIANA STUDIES IN PREDICTION: No. 14

A CHARACTERIZATION OF HONORS STUDENTS

The orbiting of sputnik a half a world away put a number of educational programs on the launching pad in America. One of these, popularly known as the Honors Program, is devoted to the accommodation of students with unusually high intellectual skills. If the University is as Sanford (1964) states it is, an institution for the promotion of development of individuals in late adolescence, we must first begin by knowing what are the characteristics of the student that the university serves. Only then can we maximally promote student development during this particular period of life. There is also reason to believe that students with unusual intellectual characteristics may differ from other subsets of students in the university in ways beside their academic talent. If so, special program adaptations for these people would seem appropriate in fostering their total development. Therefore, this study is devoted to a description of the characteristics of students in the Honors Program at Indiana University.

Students in the Honors Program at Indiana University are invited to participate in that curriculum because of their unusually high qualifications in terms of scholastic aptitude. Evidence of this ability is taken from the Scholastic Aptitude Test (SAT) or the American College Testing Program (ACT) in conjunction with an outstanding high school record. In the Honors Program special classes are taught in all of the disciplines, and in these special classes only students selected for the program participate. Strong emphasis is upon independent study and upon discussion, rather than upon classical lecture procedure. It would appear that the demands put upon the student by this program are clearly different from those evidenced in the typical university class. The ability independently to conduct ones study, the ability to pursue knowledge with little guidance, appears to be an important trait of the students who are successful in the Honors Program. It also appears reasonable to hypothesize that students who have a broader grasp of subject matter will perceive the world differently than students in general do. If this be true one may speculate that the Honors students may present a unique set of personality and personal history characteristics. Therefore, this study was conducted in an effort to describe this subset of the student population to see how they may be characterized. The conclusions from this characterization will be appropriate for program evaluation.

THE PROBLEM

Honors classes have typically been conducted at Indiana University with fair knowledge of the student's academic potential but with little knowledge of the personal and affective character of the student participating in the Honors Program. The purpose of this study is to explore other characteristics of the Honors student. His personality characteristics, his interests, his family background, and high school activity record. The report to follow will therefore first begin with test scores describing personality and interests data on a group of Honors students followed by family background and high school activities programs of Honors students.

PROCEDURE

At the time of enrollment of Honors students in the fall of 1968 a battery of tests known as the Opinion, Attitude, and Interest Survey was administered. Also a personal history questionnaire was completed by each individual. Baseline data for this questionnaire was available in that the entire freshman class in 1961 had completed the survey. Although admission procedures had become slightly more stringent between 1961 and 1968, other changes in student background are believed to have changed only slightly. Therefore, this earlier group seems to be a reasonably adequate baseline with which to compare the Honors group, representing a compromise in economy between time and expense of data collection and precision in sampling.

PERSONAL HISTORY

The students on whom data were collected for this study represent a sample of 236 participants in the Honors Program, of which 94 were males and 142 were female. As shown in Table 1, 17 per cent of the students were 17 years old at the time the data were collected, 77 per cent were 18 years old, and only 6 per cent were more than 18 years old. This means that roughly four out of five of the students in the study were 18 years old. In the baseline group, however, 71 per cent of the females and 67 per cent of the males were 18 at the time of enrollment, while 23 per cent of the females and 30 per cent of the males were older than 18 years of age. The Honors group tended to be slightly younger than the baseline people.

TABLE 1. PERCENTAGE OF HONORS STUDENTS AND BASELINE GROUP BY AGE.

	Honors Students N = 236			Baseline Group N = 2797		
	Females	Males	Total	Females	Males	Total
17	18.3	14.9	16.9	5.9	3.3	4.6
18	78.2	74.5	76.7	70.8	67.1	69.0
19	3.5	9.6	5.9	21.5	24.7	23.1
20 or older	0.0	1.1	0.4	1.7	4.9	3.3

Among the Honors students only two had graduated from high school before 1968, the remainder had graduated in the year 1968 and had enrolled as freshmen at Indiana University in September of that year. As shown in Table 2 of the 94 males three-fourths of them came from inside the state of Indiana, whereas approximately two-thirds of the females came from inside the state of Indiana. A Chi square test between the sexes, however, shows that this difference is insignificant and consequently cannot be attributed to anything other than a chance selection in the sample studied. However, 85 per cent of the baseline males and 80 per cent of the females came from inside the state of Indiana. It appears that proportionately more of the Honors students than students in general came from outside of Indiana.

TABLE 2. PERCENTAGE OF HONORS STUDENTS AND BASELINE GROUP THAT CAME FROM IN OR OUT OF THE STATE OF INDIANA.

	Honors Students N = 236			Baseline Group N = 2803		
	Females	Males	Total	Females	Males	Total
In State	64.1	76.6	69.1	79.8	85.3	82.4
Out of State	35.9	23.4	30.9	20.2	14.7	17.6

On the average the students came from high school classes of 404 students, and in these high school classes the Honors group, on the average, ranked 23rd. All but 8 of the students came from high schools reporting class sizes of 100 or more and 68 of the students came from classes reported to be over 500 in size. Clearly, the Honors group came from a variety of high schools. As shown in Table 3, within these high school classes 12 per cent of the males and 16 per cent of the females were valedictorians. Thirteen per cent of the males and 12 per cent of the females were salutatorians. All but 6 per cent of the males and 2 per cent of the females were in the top 10 per cent of their high school graduating classes. The high school records of the group as a whole were outstanding.

TABLE 3. PERCENTAGE OF HONORS STUDENTS AND BASELINE GROUP BY HIGH SCHOOL CLASS STANDING.

	Honors Students N = 235			Baseline Group N = 2789		
	Females	Males	Total	Females	Males	Total
Valedictorians and Salutatorians	27.7	24.5	26.3	8.6	4.2	6.5
Upper 10%	69.1	70.2	69.8	33.7	17.4	25.9
Upper 25%	2.1	6.4	3.8	27.2	29.3	28.2
Upper 50%	0.0	0.0	0.0	22.6	27.8	25.1
Upper 75%	0.0	0.0	0.0	6.4	18.4	12.2
Lower 25%	0.0	0.0	0.0	1.4	2.9	2.2

The students in this study were also active in extra curricular programs in their high schools. As evidence of this, approximately 80 per cent of each sex held one or more offices in extra curricular organizations while they were students in high school. This compares with 75 per cent of the females and 64 per cent of the males in the baseline group who held offices in high school organizations.

What type of families do these Honors students come from? To explore this question data were collected on occupations and education of fathers, occupation and education of mothers, number of brothers and sisters older, number of brothers and sisters younger than the Honors students. These data will be reported in the following paragraphs.

Table 4 shows the occupations of fathers of the Honors students in this study. The occupations of fathers for the

males were very much like those for the females. For both sexes the professional-technical category of occupation was the most conspicuous one. Approximately 41 per cent of the fathers were employed in this category. In contrast, only 29 per cent of fathers of baseline females and 26 per cent of fathers of baseline males were in this occupational category.

The next most frequent category for Honors fathers was manager-proprietor. Approximately a fourth of the fathers of the Honors students found their employment in jobs fitting this category while slightly more than a fourth of baseline fathers were in this category. It appears that the characteristic occupation of the fathers of Honors students is well up in the socio-economic ladder, representing strong middle class occupational categories.

TABLE 4. OCCUPATIONS OF FATHERS OF HONORS STUDENTS AND BASELINE GROUP BY OCCUPATIONAL CATEGORIES (PERCENTAGES).

	Honors Students N = 236			Baseline Group N = 2770		
	Females	Males	Total	Females	Males	Total
Professional or Technical	41.5	40.4	41.1	28.9	26.1	27.5
Farmer or Farm Manager	3.5	3.2	3.4	5.3	5.4	5.4
Manager or Proprietor	21.8	28.7	24.6	28.5	27.4	28.0
Clerical	2.8	4.3	3.4	2.2	3.0	2.6
Sales	9.9	7.4	8.9	11.5	11.6	11.6
Craftsmen or Foremen	9.2	4.3	7.2	10.7	10.8	10.8
Operative	5.6	6.4	5.9	3.7	3.3	3.5
Private Household Worker	0.0	0.0	0.0	0.0	0.0	0.0
Service Worker	0.7	1.1	0.8	1.8	2.1	1.9
Laborer	4.9	4.3	4.7	7.3	10.2	8.7

To support this level of professional proficiency, the educational levels of fathers of the Honors students corresponded quite closely with the occupational levels. Table 5 shows that over half of the fathers had at least some college, and of these slightly less than 50 per cent actually graduated from college. Further, almost 20 per cent have completed either a master's degree or a doctor's degree. Approximately 9 per cent actually completed the doctorate. These data make an interesting comparison with the baseline group where 32 per cent of the fathers of males and 27 per cent of fathers of females had graduated from college, and where about 5 per cent of the fathers had master's degrees and another 5 per cent had doctorates.

TABLE 5. EDUCATIONAL LEVEL OF FATHERS OF HONORS STUDENTS AND BASELINE GROUP (PERCENTAGES).

	Honors Students N = 236			Baseline Group N = 2792		
	Females	Males	Total	Females	Males	Total
Less than H.S. Grad	8.5	6.4	7.6	15.4	22.3	18.7
High School Grad	23.2	28.7	25.4	30.4	30.5	30.4
Some Coll, not Grad	27.5	14.9	22.5	22.3	19.8	21.1
College Grad (B.A.)	19.0	22.3	20.3	15.2	14.0	14.6
Some Graduate Work	4.9	5.3	5.1	5.2	3.5	4.4
Master's Degree	9.9	10.6	10.2	5.8	5.0	5.4
Doctor's Degree	7.0	11.7	8.9	5.6	4.9	5.3

In spite of the high levels of education represented among the fathers of Honors students, it is interesting to note that approximately one out of four fathers completed high school only. This seems surprising in view of the sizeable numbers of fathers who are relatively well advanced on the professional-technical ladder. Could this reflect a high job motivation among this group of fathers?

Table 6 shows the occupations of mothers of the Honors students. Although the category of household is the most conspicuous category of occupation among the mothers, indicating that a sizeable number of the mothers are housewives and consequently not employed in the economic world, a large component of the mothers are represented in the professional and technical area (approximately one out of five) and another noteable group are involved in clerical activities such as bookkeepers and professional secretaries. The number of mothers in other occupations is relatively insignificant. Baseline group data were not available on this topic.

TABLE 6. OCCUPATION OF MOTHERS OF HONORS STUDENTS BY OCCUPATIONAL CATEGORIES (PERCENTAGES).

	Honors Students N = 236		
	Females	Males	Total
Professional or Technical	19.7	22.3	20.8
Farmer or Farm Manager	0.0	0.0	0.0
Manager or Proprietor	1.4	2.1	1.7
Clerical	17.6	14.9	16.5
Sales	3.5	5.3	4.2
Craftsmen or Foremen	0.0	1.1	0.4
Operative	0.7	1.1	0.8
Private Household Worker	52.8	50.0	51.7
Service Worker	3.5	2.1	3.0
Laborer	0.7	1.1	0.8

In terms of educational levels, the mothers of Honors students did not achieve quite the high levels shown by the fathers of Honors students although the mothers of Honors students have climbed some distance up the educational ladder. The largest single group (approximately one out of three) completed high school only; however, well over half of the mothers attended college or actually received one or more degrees from college. About twenty per cent received the bachelor's degree, with 8 per cent actually going on to complete the master's degree. Only one mother of an Honors student achieved the doctorate. Among the baseline group almost half of the mothers of males and 44 per cent of the mothers of females had ended their formal education with high school graduation. Only 17 to 18 per cent had actually graduated from college, 2 per cent had master's degrees or beyond.

TABLE 7. EDUCATIONAL LEVEL OF MOTHERS OF HONORS STUDENTS AND BASELINE GROUP (PERCENTAGES).

	Honors Students N = 236			Baseline Group N = 2789		
	Females	Males	Total	Females	Males	Total
Less than H.S. Grad	8.5	3.2	6.4	13.0	17.7	15.2
High School Grad	39.4	35.1	37.7	44.2	47.6	45.9
Some Coll, not Grad	18.3	29.8	22.9	24.4	17.6	21.2
College Grad (B.A.)	19.7	17.0	18.6	12.9	12.6	12.8
Some Graduate Work	6.3	5.3	5.9	3.0	2.3	2.6
Master's Degree	7.7	8.5	8.1	2.5	2.2	2.4
Doctor's Degree	0.0	1.1	0.4	0.0	0.0	0.0

Noting the data in Table 4 and Table 6 it is clear that Honors students came from homes in which the parents are engaged in largely professional and technical kinds of activities, and homes in which many of the mothers are professionally occupied outside of the home. And in Tables 5 and 7 one sees that these are homes in which the majority of the parents have attended at least some college and many of whom have actually completed college and go on to complete advanced degree work. Clearly the family emphasis and interest in education for Honors students is reflected in the high levels of professional pursuits and educational backgrounds of both their mothers and their fathers.

Noting the data in Table 8, one sees that approximately three out of five of the Honors students had at least one or two brothers. Also approximately three out of five Honors students had one to two sisters. These data are shown in Table 9. One male Honors student had as many as nine brothers, and two female students had as many as eight sisters.

TABLE 8. PERCENTAGE OF HONORS STUDENTS AND BASELINE GROUP BY NUMBER OF BROTHERS.

	Honors Students N = 236			Baseline Group N = 2807		
	Females	Males	Total	Females	Males	Total
0	31.7	29.8	30.9	40.1	40.9	40.5
1	38.0	39.4	38.6	38.4	35.4	37.1
2	20.4	19.1	19.9	15.4	15.2	15.3
3	7.0	8.5	7.6	4.4	4.7	4.6
4 or more	2.8	3.2	2.9	1.7	3.8	2.7

TABLE 9. PERCENTAGE OF HONORS STUDENTS AND BASELINE GROUP BY NUMBER OF SISTERS.

	Honors Students N = 236			Baseline Group N = 2804		
	Females	Males	Total	Females	Males	Total
0	27.5	28.7	28.0	41.7	38.3	40.0
1	35.9	48.9	41.1	37.6	39.7	38.6
2	27.5	16.0	22.9	14.4	14.8	14.6
3	2.8	4.3	3.4	4.1	4.8	4.4
4 or more	6.3	2.2	4.5	2.2	2.5	2.3

The data on siblings is further elaborated in Tables 10 and 11. In Table 10 it can be seen that almost half of the Honors students either had no brothers and sisters or were the oldest member of the family. However, a third of them had one older sibling and 12 per cent had two older siblings. Table 11 shows that about a third of the students were either the youngest child in the family or had no younger brothers or sisters. However, three out of ten had as many as one older sibling and one out of five had two older siblings. One male and one female each had nine younger siblings and one male had as many as ten younger siblings. Although it appears that many of the students in the study come from families of two to four members clearly some of them come from somewhat larger families.

TABLE 10. PERCENTAGE OF HONORS STUDENTS BY NUMBER OF OLDER SIBLINGS.

	Honors Students N = 236		
	Females	Males	Total
0	47.2	45.7	46.6
1	34.5	37.2	35.6
2	11.3	13.8	12.3
3	2.8	2.1	2.5
4 or more	4.2	1.1	2.9

TABLE 11. PERCENTAGE OF HONORS STUDENTS BY NUMBER OF YOUNGER SIBLINGS.

	Honors Students N = 236		
	Females	Males	Total
0	29.6	35.1	31.8
1	28.2	30.9	29.2
2	23.9	13.8	19.9
3	12.0	13.8	12.7
4 or more	6.3	6.6	6.1

One striking point in these data is the similarity between men and women in the Honors program. Very little variation is shown in the above tables in regard to the nature of the father's occupation, nature of the mother's occupation, or in educational levels of the parents. Also the number of younger and older siblings, as well as the sex of siblings, appear to be very similar for men and women in the Honors program. It apparently can be concluded that men and women in the program came from markedly similar family and educational backgrounds.

ASPIRATIONS AND PROBLEMS

Among a group of students with as much talent as is displayed by the Honors students it would be interesting to know what their educational aspirations are. Therefore, the students in this study were asked to indicate the highest degree to which they aspired. These data are shown in Table 12. More than four out of five males, two out of three females, stated that they aspired to at least a master's degree, while about three out of five males and two out of five females from the baseline group said they would do any graduate work. Roughly three out of five males, but only one out of five females said they would complete degrees beyond the master's. Clearly the educational aspirations of this group are higher than those normally expected among an unselected college class.

TABLE 12. PERCENTAGE OF HONORS STUDENTS AND BASELINE GROUP BY EDUCATIONAL ASPIRATIONS.

	Honors Students N = 235				Baseline Group N = 2769		
	Females	Males	Total		Females	Males	Total
Less than BA or BS	0.0	0.0	0.0	Grad or Prof	44.4	65.1	54.3
BA or BS	31.2	13.8	24.3	No Grad or Prof	46.9	28.4	38.1
MA or MS	46.8	21.3	36.6	Undecided	8.7	6.5	7.7
PhD or EdD	13.5	35.1	22.1				
MD or DDS	5.7	16.0	9.8				
LLB or BD	2.1	11.7	6.0				
Other	0.7	2.1	1.3				

Table 13 indicates the responses of the Honors students to a number of situations in which college students often report difficulties. About 45 per cent of the Honors group was concerned with vocational choice. More women than men showed this particular concern, or admitted to it. These percentages however are contrasted with 24 per cent of the men in the baseline and 25 per cent of the baseline women who claimed this

particular problem. The Honors group apparently is somewhat more concerned about the general problem of vocational choice than is true of the baseline group.

About 12 per cent of the Honors group checked some concern about the possibility of emotional problems arising for them at the University. Slightly more women than men admitted to this possibility. The data on emotional problems for Honors students indicated a slightly higher incidents of admitting to these conditions than is true of the baseline group, where approximately 7 per cent of the men and 14 per cent of the women noted the possibility of emotional complications.

The Honors students did not seem to be particularly concerned about physical appearance, nor did the baseline group. However, even the small percentages claiming this problem indicated that the Honors student showed slightly more concern than did the baseline group. Similarly, physical condition or health problems, were admitted to be a concern for about 8 per cent of the Honors group. About 12 per cent of the men and 5 per cent of the women checked this as being a possible problem. In the baseline group, 3 per cent of the men and 4 per cent of the women admitted to physical condition as being a problem. Although again the percentages are small, the Honors group once more checked this as a potential problem more often than did the baseline group.

TABLE 13. PERCENTAGES OF HONORS STUDENTS AND OF BASELINE GROUP EXPECTING DIFFICULTIES IN SELECTED SITUATIONS.

	Honors Students N = 235			Baseline Group N = 2808		
	Females	Males	Total	Females	Males	Total
Vocational Choice	49.6	37.2	44.7	25.1	24.3	24.7
Emotional Problems	13.5	9.6	11.9	14.0	6.7	10.5
Physical Appearance	4.3	5.3	4.7	2.6	1.5	2.1
Physical Condition	5.0	11.7	7.7	3.7	3.2	3.5
Study Habits	24.8	29.8	26.8	53.0	50.0	51.5
Social Life	21.3	19.1	20.4	6.8	6.3	6.6
Friendship	5.0	8.5	6.4	1.6	1.6	1.6
Religion	9.2	3.2	6.8	2.4	2.1	2.2
Home Life	4.3	1.1	3.0	1.1	0.0	0.6
Dating	9.2	17.0	12.3	3.8	4.2	4.0
Money	22.0	23.4	22.6	14.8	16.8	15.8
Moral	4.2	7.4	5.5	1.1	1.5	1.3

One's skill in dealing with the academic side of the University is an important variable, especially to students who have considerable potential. Therefore, more than a quarter of the Honors students checked study habits as being a possible problem. Slightly larger proportions of men checked this item than did women. However, these figures compare very favorably with the baseline group in which 50 per cent of the men and 53 per cent of the women checked study habits as being a potential problem for them at the University. Apparently the greater academic ability of the Honors group has indicated to them that they have sufficient skill in meeting academic objectives that concern about effective techniques of attacking subject matter is not as warranted as it is for the baseline group.

The data on social life are somewhat in contrast however with the data on study habits. Here one out of five of the Honors students showed some concern for social life as being a problem at the University. The data for men and women are very comparable. On the other hand the data for the baseline group shows a clear departure from the Honors figures. Here only about one out of fifteen believed social life might pose a problem. It could be hypothesized that the Honors group, having found greater skill in the academic area, has devoted a large portion of its time in academic pursuits. As a result it has neglected social activities, and thereby has limited its chance to learn the skills needed to deal with social situations.

In contrast, the matter of friendship seems to be of very little concern to the Honors group, and it was even less concern for the baseline group. This is interesting in view of the data on social life in that one's friends would appear to be a vehicle through which one might advance his social life. Possibly, Honors students are not concerned about friendships because they have learned to be effective "loners."

Only a few Honors students showed concern over religion as a possible problem at the University. Similarly, only a few of the baseline group showed concern for this particular item. Again a slightly larger percentage of the Honors group checked this topic than did the baseline group.

Problems arising from one's home appear to present no concern for the Honors group. On the other hand 12 per cent of the Honors group, made up of 17 per cent of the males and 9 per cent of the females, expressed some concern over dating as being a possible problem at the University. This means that almost one out of five males and one out of ten females saw dating as a problem for them at the University. In the baseline group, however, only 4 per cent of the males and slightly less than 4 per cent of the females expressed concern over this particular item. The data on this problem are consistent with the data on social life where the Honors group showed more concern about having problems than did the baseline group.

Apparently the matter of insufficient funds is a problem across all intellectual levels of the University. More than one out of five of the Honors group expressed concern over money as a possible problem at the University. For the baseline group the data showed slightly less concern, although 17 per cent of the men and 15 per cent of the women claimed money as being a potential problem at the University.

Moral problems appear to be relatively of little concern to both the Honors group and to the baseline group. Apparently students have their minds made up on moral issues or at least are not concerned about the emergence of moral issues affecting their University life.

ACADEMIC ABILITIES OF HONORS STUDENTS

Academic abilities of the Honors group were studied through the use of two tests: College Board's Scholastic Aptitude Test (SAT), and the Opinion, Attitude, and Interest Survey (OAIS). The data on the SAT and the OAIS are given in Table 14. Here it can be seen that males and females in the Honors program are very much alike in their verbal skills with a mean of 656 for males, 653 for females. However, on the mathematics test of the SAT the males exceeded the females with a mean 670 for the males, 634 for the females. Assuming that a score of 500 is typical for entering freshmen across the nation, the scores produced by the Honors group are conspicuously above average in both verbal and mathematics subtests of the SAT. This, of course, is entirely reasonable, since students are invited into the Honors program on the basis of strong academic promise.

TABLE 14. ACADEMIC ABILITIES OF HONORS STUDENTS.

	Females		Males	
	$\bar{X}$	σ	$\bar{X}$	σ
SAT Verbal	653	60	656	56
SAT Math	634	66	670	68
Achiever Personality	69	24	64	23
Intellectual Quality	79	20	73	23
Creative Personality	55	31	56	31

Three tests of the OAIS are designed to illustrate intellectual qualities which are expected to characterize unusually tallented groups such as the Honors students. These tests are Achiever Personality, Intellectual Quality, and Creative Personality. The first is designed to show tenacity in the pursuit of achievement. The second is designed to show the level of intellectual activity which characterizes the

individuals, and is therefore somewhat similar to academic aptitude tests. The third test is designed to show to what extent the individual is capable of unique and inventive approaches to various problems. The data reported are in terms of percentiles after having been averaged for all students following the procedure prescribed by Ebel (1965).

As can be seen in Table 14 Achiever Personality scores for both men and women ranked well above 50, the typical mark for entering freshmen. Women ranked slightly higher than did men, but the difference was small. In terms of Intellectual Quality again both men and women ranked conspicuously higher than the 50th percentile, and again women ranked slightly higher than did men. On the third test--Creative Personality--men and women both ranked only slightly higher than average for all entering freshmen. These data would indicate that first of all the Honors group--as expected--presents considerable potential for academic work, a considerable enthusiasm to pursue academic work, but are not unusually unique in their approach to intellectual problems. These data suggest that the Honors students are capable intellectual conformists. If this is so it is not surprising, since it is this kind of behavior which is often rewarded by the typical educational program.

PERSONALITY AND INTERESTS CHARACTERISTICS OF HONORS STUDENTS

Personality and interests of the Honors group were explored by the use of the OAIS. This test contains three scales that deal with presumedly relevant personal traits, and five scales that deal with interests in academic areas. The data from these tests are presented in Table 15.

For the three tests of personality the 50th percentile is considered typical scores for entering freshmen. It can be seen from Table 15 that in Social Adjustment, Emotional Adjustment, and in Masculine Orientation Honors students measured are characteristically somewhat below average. Emotional Adjustment scores for males areslightly higher than they are for females. However, both males and females are somewhat below the 50th percentile point. Masculine orientation for females is about at the average level, whereas it is slightly lower than average for males.

TABLE 15. PERSONALITY-INTERESTS CHARACTERISTICS OF HONORS STUDENTS.

	Females		Males	
	$\bar{X}$	σ	$\bar{X}$	σ
Social Adjustment	39	27	39	28
Emotional Adjustment	32	27	40	28
Masculine Orientation	48	31	42	29
Business	16	19	20	22
Humanities	57	30	52	28
Social Science	45	29	42	29
Physical Science	45	29	50	29
Biological Sciences	26	25	25	24

The OAIS provides tests of interests in the following areas: business, humanities, social science, physical science, and biological sciences. These tests are based upon scores of students who eventually end up majoring in each of these academic disciplines; therefore, a score at the 50th percentile indicates average performance for a major in the area. Individuals who are not majors are expected to score below 50.

As shown in Table 15 the academic interests of male and female Honors students are very much alike. Both groups look like the typical humanities major in their academic interest. Males also show a clear interest in the physical sciences, while females have some interest in both the social and physical sciences. Neither males nor females showed much interest in business or in biological sciences. This may be surprising in terms of the rapidly expanding developments in the field of genetics, medicine, etc.

FACTOR ANALYSIS RESULTS

When one surveys the list of variables on which data were collected in this study, no clear pattern of characteristics for Honors students appears. This is largely because there is a sizeable overlap among many of the variables observed making it difficult to identify unique traits. For example, social and emotional adjustment merge together and each of these is related to problems about which students

are concerned. Therefore, if the dimensions of character of Honors students are to be identified, it is important to employ a technique which will cluster variables together which contain a common trait, and which indicate the extent to which each variable in the cluster is related to the common trait. The procedure employed to do this was factor analysis. A principal components method with varimax rotation was used.

The results of the factor analysis are reported in Tables 16 through 29. Fourteen factors were extracted from the rather heterogeneous data collected for the study. In the tables each factor is given with the variables which correlate with it at $\pm$ .20 or greater.

The first factor extracted was Personal Problems (Table 16). The questionnaire provided the Honors students a list of problems that are often encountered in college. Students checked those items about which they personally had concern. It is this list of problems that emerge as the first factor characterizing Honors students.

TABLE 16. VARIABLES AND LOADINGS DEFINING THE FIRST FACTOR--PERSONAL PROBLEMS

Variable	Loading
Choice of Vocation Concern	.29
Emotional Problem Concern	.62
Physical Appearance Concern	.73
Physical Condition Concern	.61
Study Habits Concern	.29
Social Life Concern	.72
Friendships Concern	.72
Dating Concern	.73
Money Concern	.37
Morals Concern	.37

The second factor has been defined as Intellectualism (Table 17). The most significant variables here seem to be the tests of Intellectual Quality and Creative Personality, opposed by a lack of interest in the Business affairs. A theoretical element appears to be resident in this factor.

TABLE 17. VARIABLES AND LOADINGS DEFINING THE SECOND FACTOR--INTELLECTUALISM.

Variable	Loading
Intellectual Quality	.75
Creative Personality	.64
Social Adjustment	-.48
Business Interest	-.71
Humanities Interest	.50
Physical Science Interest	.25
Biological Science Interest	-.21
SAT-Verbal	.23

Factor three (Table 18) has been labelled Social Orientation. This factor is characterized by positive Social and Emotional Adjustment, and strong interest in Social Sciences, with negative interest in other academic pursuits. Interests in inter-personal relations, rather than things or ideas, emerges in this factor.

TABLE 18. VARIABLES AND LOADINGS DEFINING THE THIRD FACTOR--SOCIAL ORIENTATION.

Variable	Loading
Creative Personality	.30
Social Adjustment	.59
Emotional Adjustment	.83
Masculine Orientation	-.24
Humanities Interest	-.38
Social Science Interest	.78
Physical Science Interest	-.24

The fourth factor (Table 19) is difficult to pull meaning out of. Only three variables were associated with this factor, but all loaded well. Since the more of the factor that is present the fewer are the number of brothers and sisters and the fewer the number of younger siblings, the factor has been called an Only Child factor. However, it may also characterize a few youngest children, especially if the siblings are sisters. The behavioral manifestations of this factor are obscure.

TABLE 19. VARIABLES AND LOADINGS DEFINING THE FOURTH FACTOR--ONLY CHILD.

Variable	Loading
Number of Brothers	-.76
Number of Sisters	-.47
Number of Siblings Younger	-.95

The next factor to emerge (Table 20) is labelled Socio-Economic Status. The higher the father's occupational rank, and the more education both father and mother had, the more evident is the factor. A substantial grade point average, no concern over money problems, but a mild concern over social life fit nicely into the Socio-Economic status picture.

TABLE 20. VARIABLES AND LOADINGS DEFINING THE FIFTH FACTOR--SOCIO-ECONOMIC STATUS.

Variable	Loading
Father's Occupation	-.82*
Father's Education	.77
Mother's Education	.48
Social Life Concern	.20
Money Concern	-.21
Grade Point Average	.21

*Numerical values assigned to occupations were in reverse of occupational status.

The sixth factor (Table 21) has been called Academic Aptitude, the classical measures that reflect academic success load on this factor. The ability to achieve--work skills, basic ability, knowledge of how the academic game is played--characterizes this factor.

TABLE 21. VARIABLES AND LOADINGS DEFINING THE SIXTH FACTOR--ACADEMIC APTITUDE.

Variable	Loading
Grade Point Average	.34
SAT-Verbal	.63
SAT-Mathematics	.77
Rank in High School Class	-.69*

*Top ranks had smallest numerical values.

The seventh factor is identified as Anti-Intellectual Ascendence. It appears to be characterized by a rejection of the achievement motive, an acquiring of the marks of achievement (GPA and rank in class) and a tendency to show the dominating behaviors of masculinity. At first glance this anti-intellectualism may appear to be antagonistic to the idea of Honors work. However, it is probably this capable group that can afford a "streak" of anti-intellectualism and still succeed in the academic world.

TABLE 22. VARIABLES AND LOADINGS DEFINING THE SEVENTH FACTOR--ANTI-INTELLECTUAL ASCENDENCE.

Variable	Loading
Achiever Personality	-.77
Creative Personality	.31
Social Adjustment	-.22
Masculine Orientation	.52
Business Interest	.33
Biological Science	-.60
Grade Point Average	-.52
Rank in High School Class	.26*

*Top ranks had smallest numerical values.

The eighth factor (Table 23) has been called Determinism. It is characterized by an interest in the lawfulness of natural phenomina and the judging of behavior on the basis of this lawfulness, rather than on conventions.

TABLE 23. VARIABLES AND LOADINGS DEFINING THE EIGHTH FACTOR--DETERMINISM.

Variable	Loading
Humanities	-.42
Physical Science	.64
Physical Appearance	-.22
Morals	-.71

The next factor (Table 24) again is difficult to characterize. It appears to be an oldest-child-in-a-male-dominated-family configuration. The oldest child character is evident, and the negative relationship with number of sisters is also clear. The behavioral manifestations of this factor are speculative.

TABLE 24. VARIABLES AND LOADINGS DEFINING THE NINTH FACTOR--OLDEST MALE CHARACTER.

Variables	Loading
Number of Sisters	-.67
Number of Siblings Older	-.93
Money Concern	-.22
Grade Point Average	-.20

The tenth factor (Table 25) has been called Career Orientation. The factor is primarily characterized by a clear educational objective, including the degree being sought, and an absence of concern for vocational choice, presumedly because the choice has been made.

TABLE 25. VARIABLES AND LOADINGS DEFINING THE TENTH FACTOR--CAREER ORIENTATION.

Variable	Loading
Intellectual Quality	-.28
Social Adjustment	-.24
Emotional Adjustment	.23
Masculine Orientation	.32
Biological Science Interest	.21
Degree Expectations	.75
Choice of Vocation Concern	-.60

The next factor to emerge from the data (Table 26) has been labelled Urban Lower Income. High school class size loads heavily on the factor, indicating the larger the size of high school (and presumedly large schools are in urban areas) the more of the factor is evident. Concern for money also loads well on this factor. The negative relation of Intellectual Quality is a small one, and does not weigh heavily in defining the factor. The limited number of variables involved limit the confidence one may place in the definition of this factor.

TABLE 26. VARIABLES AND LOADINGS DEFINING THE ELEVENTH FACTOR--URBAN LOWER INCOME.

Variable	Loading
Intellectual Quality	-.25
Money Concern	.51
High School Class Size	.78

The twelfth factor (Table 27) has been called Student Conventions Independence. The typical concerns of college students--study habits, money, health--are the antithesis of this factor. Also, only a mild interest is expressed in vocational choice and only a mild interest or disinterest is revealed in academic areas. The behaviors believed conventional

for students are basically opposites of the behaviors that characterize this factor. The surprising thing may be that the factor shows up with Honors students. Again, with superior talent and typically middle class background, Honors students are among the few who have the necessary equipment to remain aloof from the conventional concerns of students and still succeed. This factor appears to conflict with the first factor, however, a concern over student problems itself is multifaceted. After the portion of general worry is extracted, a portion of differences among people on these variables still remained to be assessed and appears in factor twelve.

TABLE 27. VARIABLES AND LOADINGS DEFINING THE TWELFTH FACTOR--STUDENT CONVENTIONS INDEPENDENCE.

Variable	Loading
Humanities Interest	-.21
Biological Science	.28
Choice of Vocation Concern	.27
Physical Condition Concern	-.28
Study Habits Concern	-.73
Money Concern	-.35

The next to last factor, although difficult to define because of the nature of the variables involved and the limited number of these variables, appears to be Maternal Influence (Table 28). Mother's occupation more than anything else characterizes this factor. Next in importance was the mother's education. Father's education probably appears because there is a relationship between the educational levels of the parents. A previous study lended support to this finding in that it revealed the mother's educational level as more closely associated with academic persistence than was father's educational level (Chase 1965).

TABLE 28. VARIABLES AND LOADINGS DEFINING THE THIRTEENTH FACTOR--MATERNAL INFLUENCE.

Variable	Loading
Father's Education	-.22
Mother's Occupation	.86
Mother's Education	-.68

The last factor (Table 29) extracted from the many relationships was called Leadership. It is tied to the number of offices held in high school and appears to have a mild social concerns element, combined with a low interest in scientific pursuits. These are traits often believed to characterize the leadership role.

TABLE 29. VARIABLES AND LOADINGS DEFINING THE FOURTEENTH FACTOR--LEADERSHIP.

Variable	Loading
Humanities Interest	.35
Social Science Interest	.28
Physical Science Interest	-.34
Biological Science Interest	-.42
Offices Held in High School	.74
Emotional Problems Concern	.23

In summary, the factor analyses reveal the components of family and academic history, interest and abilities to be varied and complex. Simplistic approaches to programs for these students clearly will be inadequate. The effort instead must be in the direction of diversity and complexity.

One characteristic that is conspicuously absent is an element of humanism among the factors. In a day when human values are clearly in ascendence the participation of our most talented youth in humanistic interests seems a desirable endeavor, yet the group of Honors students surveyed appear to be characterized more by deterministic, rather than humanistic values.

The students in the program appear to be capable students who know the academic game. They worry about many problems, but appear to feel confident of their talent in dealing with student routines. They are individualistic, yet not so much so that they destroy their possibilities for leadership. They are people who clearly hold great potential for attacking the world's work.

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